

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A distributed system which makes n computers, which are connected via a network, operate synchronously, and provides multiplexing of at least $(n - f)$ computers, n being an integer and f being a maximum integer where $3f < n$,

each computer comprising:

an input candidate collection device configured to collect input data items, each of which is selected as a next candidate to be processed by each of n computers, via the network;

a first input candidate selection control device configured to determine whether not less than $(n - f)$ input data items having identical contents are present, when the input candidate collection device has collected the not less than $(n - f)$ input data items, and to settle one of the input data items having identical contents as next data to be processed, when the not less than $(n - f)$ input data items having the identical contents are present;

a second input candidate selection control device configured to determine whether or not half of the majority of collected input data items having identical contents are present, when the first input candidate selection control device determines that the not less than $(n - f)$ input data items having identical contents are not present, and to cause the input candidate collection device to reexecute collection after selecting the

input data item as a self candidate and discard the all input data items of other candidates, when over half of the majority of collected input data items are present;

a third input candidate selection control device configured to cause the input candidate collection device to reexecute collection after arbitrarily selecting an input data item from the collected input data items as a self candidate and discarding all input data items of other candidates, when the second input candidate selection control device determines that over half of the majority of the collected input data items are not present; and

a journal device configured to hold the input data item settled by the first input candidate selection control device~~[[:]]~~, and

each of the first input candidate selection control device, the second input control input candidate selection control device, and the third candidate selection control device including:

a first input candidate adjustment control device configured to send the input data item held in the journal device as a settled input data item, when another computer collects an input data item of a step that has already been settled in the ~~[[self]]~~ computer~~[[:]]~~, and

a second input candidate adjustment control device configured to settle an input data item as next data to be processed, when the input data item is sent from another computer as a settled input data item upon collecting input data items by the input candidate collection device.

2-3. (Cancelled)

4. (Currently amended) A system according to claim 1, wherein the journal device holds the input data items in an order from a latest input data item in correspondence with a predetermined number of steps,

the first input candidate adjustment control device sends a predetermined message to another computer, when the journal device does not hold a settled input data item to be sent to another computer, and

each computer further comprises:

a state holding device configured to hold states of the [[self]] computer just before the settled input data item is processed in steps already settled in the [[self]] computer in correspondence with a predetermined number of steps;

a state exchange device configured to exchange the state in each step held by the state holding device with another computer; and

a skip device configured to acquire a state corresponding to the latest settled step of another computer, ~~in which the settled step is most advanced among all the other computers,~~ by the state exchange device, and to copy the acquired state to the [[self]] computer, when a sum of the number of collected input data items and the number of the predetermined messages which are sent from the other computers is not less than $(n - f)$, and the number of collected input data items is less than $(n - f)$ upon collecting input data items by the input candidate collection device.

5. (Currently amended) A system according to claim 1, wherein each computer further comprises:

a counter configured to count a virtual time used in a process of an input data item;

a first input data item generation device configured to periodically generate a first input data item for giving an increment timing of a value of the counter;

a second input data item generation device configured to generate a second input data item for giving a comparison timing between a system time and the virtual time counted by the counter, the second input data item including the system time of the [[self]] computer; and

a virtual time adjustment device configured to compare the system time obtained from the second input data item with the virtual time counted by the counter, and to set an increment width of the value of the counter upon processing the first input data item to be large, when the system time leads the virtual time.

6. (Currently amended) A multiplexing control method for a distributed system which makes n computers, which are connected via a network, operate synchronously, and provides multiplexing of at least $(n - f)$ computers, n being an integer and f being a maximum integer where $3f < n$,

each computer performing:

an input candidate collection step of collecting input data items, each of which is selected as a next candidate to be processed by each of n computers, via the network;

a first input candidate selection control step of determining whether not less than $(n - f)$ input data items having identical contents are present, when the input candidate collection step has collected the not less than $(n - f)$ input data items, and settling one of the input data items having identical contents as next data to be processed, when the not less than $(n - f)$ input data items having identical contents are present;

a second input candidate selection control step of determining whether or not over half of the majority of collected input data items having identical contents are present, when it is determined in the first input candidate selection control step that the not less than $(n - f)$ input data items having identical contents are not present, and causing the input candidate collection step to reexecute collection after selecting the input data item as a self candidate and discarding all the input data items of other candidates, when over half of the majority of collected input data items are present;

a third input candidate selection control step of causing the input candidate collection step to reexecute collection after arbitrarily selecting an input data item from the collected input data items as a self candidate and discarding all the input data items of other candidates, when it is determined in the second input candidate selection

control step that over half of the majority of the collected input data items are not present; and

a journal step of holding the input data item settled in the first input candidate selection control step~~[[:]], and~~

each of the first input candidate selection control device, the second input control input candidate selection control device, and the third candidate selection control device including:

a first input candidate adjustment control step of sending the input data item held in the journal step as a settled input data item, when another computer collects an input data item of a step that has already been settled in the ~~[[self]]~~ computer~~[[:]]~~, and

a second input candidate adjustment control step of settling an input data item as next data to be processed, when the input data item is sent from another computer as a settled input data item upon collecting input data items in the input candidate collection step.

7-8. (Cancelled)

9. (Currently amended) A method according to claim 6, wherein the journal step holds the input data items in an order from latest input data item in correspondence with a predetermined number of steps,

the first input candidate adjustment control step sends a predetermined message to another computer, when settled input data to be sent to another computer is not held in the journal step, and

each computer further performing:

a state holding step of holding states of the [[self]] computer just before the settled input data item is processed in steps already settled in the [[self]] computer in correspondence with a predetermined number of steps;

a state exchange step of exchanging the state in each step held in the state holding step with another computer; and

a skip step of acquiring a state corresponding to the latest settled step of another computer, ~~in which the settled step has most advanced among all the other computers,~~ by the state exchange step, and copying the acquired state to the [[self]] computer, when a sum of the number of collected input data items and the number of the predetermined messages which are sent from other computers is not less than $(n - f)$, and the number of collected input data items is less than $(n - f)$ upon collecting input data items in the input candidate collection step.

10. (Currently amended) A method according to claim 6, wherein each computer further performs:

a first input data item generation step of periodically generating a first input data item for giving an increment timing of a value of a counter configured to count a virtual time used in a process of input data;

a second input data item generation step of generating a second input data item for giving a comparison timing between a system time and the virtual time counted by the counter, the second input data item including the system time of the [[self]] computer; and

a virtual time adjustment step of comparing the system time obtained from the second input data item with the virtual time counted by the counter, and setting an increment width of the value of the counter upon processing the first input data item to be large, when the system time leads the virtual time.